

The Development of Renewable Energy in Vietnam and Opportunities for South Korean Investors

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Introduction

Driven by low-cost resources, Vietnam is considered among Southeast Asia's most efficient power markets. The country has achieved approximately 99% electrification at a relatively low cost compared to neighboring countries. The Vietnamese government has been moving forward to develop renewable energy sources to ensure energy security and address growing power demand. The most recent iteration of Vietnam's Power Development Plan 8 (PDP8) estimates an annual financing need of over US\$11 billion, much of which will be allocated to renewables. However, achieving the goal of net-zero emissions by 2050 will require Vietnam to massively increase its renewable energy capacity, particularly solar and wind energy, which demands substantial investment. Given its limited domestic resources, Vietnam's ability to maintain the rapid pace of clean energy development relies on how the country unlocks international investment, especially from advanced countries such as South Korea.

This paper first provides the Vietnamese government's policies to develop the renewable energy sector. It then analyses the current situation of renewable energy development in Vietnam. Next, it provides the Vietnamese government's policies to develop the renewable energy sector. The study then unlocks the opportunities for South Korean investors in Vietnam's renewable energy sector.

Vietnam's Policy to Develop Renewable Energy Sources

Vietnam has rapidly transformed into Southeast Asia's emerging industrial and manufacturing hub. A growing focus has been on balancing rapid economic growth with reducing its environmental impact. This has been increasingly important for Vietnam, as the country is considered one of the most affected by climate change, with erosion occurring in low-lying areas and saltwater intrusion affecting vast swaths of the Mekong Delta. As such, Vietnam's energy policies reflect an acute awareness of its predicament and future needs.

In 2016, the government approved the revised National Power Development Master Plan (PDP 7) for the 2011- 2020 period, with a vision for 2030. The PDP 7 plan aimed to increase the share of renewable energy sources to around 7% by 2020 and above 10% by 2030 and reduce the use of imported coal-fired electricity to ensure energy security, climate change mitigation, environmental protection, and sustainable socio-economic development¹.

On May 15, 2023, the Prime Minister approved the ‘National Power Development Plan for the 2021-2030 period and vision for 2050 (PDP 8)’. The PDP 8 provides the roadmap for the energy transition in Vietnam to meet its commitment towards net zero emissions by 2050, as well as the Just Energy Transition Partnership (JETP) at the United Nations Climate Change Conference of the Parties in 2021 (COP26). The PDP 8 is the critical framework shaping Vietnam’s energy future, to enhance energy security, and sustainability, and ensure continued economic growth. One of the key initiatives under PDP 8 for Vietnam’s renewable energy is setting a target for US\$134 billion of funding by 2030 for new power plants and grid infrastructure, with a vision of achieving 50% renewable energy by 2050. The investment required to achieve these goals is substantial, with an estimated total of US\$135 billion invested by 2030, increasing to between US\$400 and US\$523 billion between 2031 and 2050². To achieve this ambitious goal, investment from both domestic and international investors is necessary.

Vietnam is attracting foreign investment in eco-friendly sectors. Several policies, regulations, and tax incentives support this. In terms of tax incentives, Vietnam passed the Law on Investment in 2020 which provides tax incentives for investment in green industries. It offers a 10% corporate income tax rate of 15 years to companies investing in eco-friendly projects and renewable energy. This is a 50% reduction from the standard corporate income tax (CIT) rate of 20%³. Vietnam offers a FIT. The FIT scheme guarantees a fixed price for electricity generated from renewable sources, such as solar and wind power. This stable and predictable revenue stream provides investors with a certain degree and reduces their financial risks. Vietnam has signed several free trade agreements (FTAs) that provide easy access to green products and services.

¹ Pritesh Samuel (2020), “Renewables in Vietnam: Current Opportunities and Future Outlook”, 12 November 2020, <https://www.vietnam-briefing.com/news/vietnams-push-for-renewable-energy.html/>

² Vietnam News (2023), “VN's power plan lacks mechanisms to attract private investors”, 16 August 2023, <https://vietnamnews.vn/economy/1582495/vn-s-power-plan-lacks-mechanisms-to-attract-private-investors.html>

³ Emerhub (2023), “The Rise of Green Investments: Opportunities for Sustainable Investment in Vietnam”, 14 June 2023, <https://emerhub.com/vietnam/green-investments-opportunities-for-sustainable-investment-in-vietnam/>

The Current Development of Vietnam's Renewable Energy Sources

Several factors are driving the rapid growth of Vietnam's renewable energy industry in the coming years, including high domestic electricity consumption, natural geographical advantages, and supportive policies from the government.

In 2022, the total power capacity of the entire system is expected to reach 79,350 megawatts (MW), with 20,165 MW coming from renewable sources, accounting for 25.4% of the total⁴. The rapid development of renewable energy sources, such as wind and solar, has increased capacity and output in the national electricity system while reducing dependence on traditional fuel sources. Solar energy has grown rapidly, with an installed capacity of over 16,500 MW by 2020, supported by the government's policies. There is also an expansion of wind power capacity, reaching over 600 MW, with a target of increasing the proportion of this energy in the country's total electricity output to 11% in 2025 and 29% in 2030⁵. Hydropower remains an important source of renewable energy in Vietnam, accounting for about 40% of the country's total electricity generation capacity. However, there are concerns about the environmental impact of large hydropower projects. Therefore, the government is exploring alternatives such as small hydropower and biomass energy.

In 2020, Vietnam's installed solar capacity exceeded Malaysia and Thailand, making it the largest in Southeast Asia, thanks to attractive feed-in tariffs (FIT). Nevertheless, insufficient electricity infrastructure caused a surplus of power generation, leading to curtailment and grid connection issues⁶. To achieve net-zero emissions by 2050, Vietnam must drastically increase its renewable energy capacity, particularly solar and wind, which will require substantial investment. Given its limited domestic resources, Vietnam's ability to sustain its clean energy development depends on attracting international investment.

Opportunities for South Korean Investors in Developing Vietnam's Renewable Energy Sources

Renewable energy capacity has grown tremendously in Vietnam in recent years. With increasingly supportive and favorable policies, Vietnam's energy transition is expected to be increasingly fast-paced, capital-intensive, and technically complex, especially in the liquefied natural gas (LNG), wind, and integrated storage segments.

⁴ Giang Anh (2023), "Phát triển năng lượng xanh, bền vững (Developing green and sustainable energy)", 08 October 2023, <https://nhandan.vn/phat-trien-nang-luong-xanh-ben-vung-post776464.html>

⁵ "Thực trạng năng lượng tái tạo tại Việt Nam: Tiềm năng và Phát triển (Situation of renewable energy in Vietnam: Potential and Development)", <https://pclepc.vn/thuc-trang-nang-luong-tai-ao-tai-viet-nam>

⁶ YCP Solidiance (2023), "Vietnam's Energy Transition – The Future of Renewable Energy", April 2023, <https://ycpsolidiance.com/article/vietnam-energy-outlook-report>

Data from the Mekong Infrastructure Tracker shows that 58% of renewable energy projects in Vietnam were developed entirely by Vietnamese enterprises. Another 27% were developed by Vietnamese enterprises with international partners, while only 12% (or 13 projects) were developed without a Vietnamese project partner⁷. Most of the foreign companies sponsoring renewable energy projects in Vietnam come from other countries in Asia, notably Thailand, Japan, and the Philippines. It is worth noting that while China has been heavily involved as a project developer or financier in Cambodia and Lao PDR, the presence of its enterprises in Vietnam remains modest.

There has been a rapid development in Vietnam-South Korea relations over recent decades. These two countries had boosted their diplomatic relations to a comprehensive strategic partnership level in 2022.

In terms of the economic field, South Korea and Vietnam have become important partners on each side. The total trade volume between the two sides has rapidly grown from US\$2.0 billion in 2010 to US\$12.85 billion in 2010 and US\$86.5 billion in 2022⁸. As a result, Korea and Vietnam have become top trading partners for each party. In 2020, Vietnam was the third-largest export destination and fifth-largest import source in Korea. At the same time, Korea was Vietnam's fourth-largest export destination and second-largest supply source⁹. Korea has remained in its position as Vietnam's top foreign investor for many years, with registered capital increasing over 700 times since 1992¹⁰. Korean firms play a vital role in Vietnam's trade activities and global value chain participation. In addition, South Korea's development aid to Vietnam is distinctive in that it focuses on socioeconomic development by sharing development experiences through education and vocational training.

A South Korean investor can invest in a power project in Vietnam in two forms including (i) a fully private investment (non-PPP projects) under the investment law; and (ii) a PPP investment project where the government and the investor enter into a PPP concession contract to allocate the risks associated with a project between the parties. To date, all investment projects in renewable energy have been licensed under the investment law regime. There is no single specific law providing a comprehensive regime for implementing a renewable power project in Vietnam.

⁷ International Union for Conservation of Nature and Natural Resources (2022), "Unlocking international finance for Vietnam's renewable energy transition", 23 May 2022, <https://www.iucn.org/news/vietnam/202205/unlocking-international-finance-vietnams-renewable-energy-transition>

⁸ Author's data processing from UN Comtrade and General Department of Vietnam Customs.

⁹ ASEAN-Korea Center (2022), "2021 ASEAN & Korea in Figures", https://www.aseanSouthKorea.org/eng/Resources/ASEAN_Talks.asp

¹⁰ Foreign Investment Agency (2021), "FDI Report in 2021", Ministry of Planning and Investment of Vietnam.

Due to the lack of specific policies and regulations guiding certain energy developments and projects and their connection to the grid, South Korean investors and developers must work closely with central and provincial agencies, such as the Ministry of Planning and Investment (MPI), Ministry of Industry and Trade (MoIT), and provincial investment promotion agencies. Additionally, energy projects in Vietnam must comply with several laws and regulations, including the PDP, Law on Investment, Law on Enterprises, Law on Construction, Law on Land, Law on Environment Protection, and Law on Electricity¹¹.

To minimize risks and gain valuable local connections and insights, South Korean investors and developers without experience in Vietnam should establish partnerships with local organizations. Working with local partners can help South Korean investors reduce their risks and gain better visibility and expertise in the local market and regulatory environment.

Concerning specific sectors, while solar and wind remain the primary sources of renewable energy, South Korean investors can focus on other innovative renewable energy sources in Vietnam. One such source is biomass energy from wood pellets, which has seen a surge in demand in Vietnam and the surrounding Asia Pacific markets. The domestic market is growing, but the export number for wood pellets is even more impressive, reaching 4.88 trillion metric tons with a total value of nearly US\$800 million in 2022¹². The opportunities for South Korean investors in this area are substantial as the Vietnamese government is taking proactive steps to encourage foreign investment in forest plantation and wooden pellet production for biomass energy, part of the PDP 8 initiative. This includes the upcoming National Zoning Plan on sustainable forestry development with a vision to 2030, a restructuring plan for the management and exploitation of forests by the State of Enterprises (SOE) to enhance efficiency, and strong support for forest certification systems such as the American Tree Farm System (ATFS), Forest Stewardship Council (FSC), and Sustainable Forestry Initiative (SFI).

Another promising renewable energy sector in Vietnam for South Korean investors is green ammonia. Green ammonia is seen a critical component of the Vietnamese government's decarbonization roadmap. The PDP 8 envisions gradually cofiring mature coal-fired assets with green ammonia and biomass to decrease the carbon footprint. Vietnam is endowed with excellent natural resources, a long coastline, and a potential to generate over 600 GW of power through offshore wind, with the combined potential of onshore wind and solar estimated to be

¹¹ YCP Solidiance (2023), "Vietnam's Energy Transition – The Future of Renewable Energy", April 2023, <https://ycpsolidiance.com/article/vietnam-energy-outlook-report>

¹² KPMG (2023), "Power Development Plan 8 – Key Developments in Renewable Energy for Vietnam", 28 September 2023, <https://kpmg.com/vn/en/home/insights/2023/09/pdp-8-key-developments-in-renewable-energy-for-vietnam.html>

over 1100 GW¹³. The PDP 8 aims to harness a portion of this massive renewable energy potential to produce green ammonia, which can cater to both domestic and export demands. Given Vietnam's unique geographical location and proximity to key demand centers such as Singapore, Japan, and South Korea, it has the potential to serve as an energy hub for the region. Infrastructure projects, such as green ammonia are capital-intensive, and limited state resources necessitate private and foreign participation to unlock the full potential of the sector in Vietnam.

References

1. ASEAN-Korea Center (2022), "2021 ASEAN & Korea in Figures, https://www.aseanSouthKorea.org/eng/Resources/ASEAN_Talks.asp
2. Emerhub (2023), "The Rise of Green Investments: Opportunities for Sustainable Investment in Vietnam", 14 June 2023, <https://emerhub.com/vietnam/green-investments-opportunities-for-sustainable-investment-in-vietnam/>
3. Foreign Investment Agency (2021), "FDI Report in 2021", Ministry of Planning and Investment of Vietnam.
4. Giang Anh (2023), "Phát triển năng lượng xanh, bền vững (Developing green and sustainable energy)", 08 October 2023, <https://nhandan.vn/phat-trien-nang-luong-xanh-ben-vung-post776464.html>
5. International Union for Conservation of Nature and Natural Resources (2022), "Unlocking international finance for Vietnam's renewable energy transition", 23 May 2022, <https://www.iucn.org/news/viet-nam/202205/unlocking-international-finance-vietnams-renewable-energy-transition>
6. KPMG (2023), "Power Development Plan 8 – Key Developments in Renewable Energy for Vietnam", 28 September 2023, <https://kpmg.com/vn/en/home/insights/2023/09/pdp-8-key-developments-in-renewable-energy-for-vietnam.html>
7. Pritesh Samuel (2020), "Renewables in Vietnam: Current Opportunities and Future Outlook", 12 November 2020, <https://www.vietnam-briefing.com/news/vietnams-push-for-renewable-energy.html/>
8. Vietnam News (2023), "VN's power plan lacks mechanisms to attract private investors", 16 August 2023, <https://vietnamnews.vn/economy/1582495/vn-s-power-plan-lacks-mechanisms-to-attract-private-investors.html>
9. YCP Solidiance (2023), "Vietnam's Energy Transition – The Future of Renewable Energy", April 2023, <https://ycpsolidiance.com/article/vietnam-energy-outlook-report>

¹³ KPMG (2023), "Power Development Plan 8 – Key Developments in Renewable Energy for Vietnam", 28 September 2023, <https://kpmg.com/vn/en/home/insights/2023/09/pdp-8-key-developments-in-renewable-energy-for-vietnam.html>